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A CASE OF ASTIGMATISM.

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By GUSTAVUS HAY, M.D., of Boston.

WHEN consulted for advice by a patient affected with astigmatism, we have first to recognize the affection; secondly, to find the directions of the meridians of greatest and least refraction, which are generally perpendicular to each other; thirdly, to find the refractive power of the eye in each of these meridians; lastly, to equalize these two different refractive powers by means of a cylindrical glass properly placed and combined with such a spherical glass as to enable the eye to work easily at the required distance.

Among the various means of recognizing this defect and the directions of the principal meridians may be mentioned the ophthalmoscope, which, when astigmatism is present, gives in the upright picture an image of the nerve-disc more magnified in the direction of the meridian of greatest refraction than in the direction at right angles to this, and *vice versa* in the inverted picture. As the shape of this latter picture would be affected by an oblique position of the convex lens, such obliquity should be avoided. This means of diagnosis has been specially described by Schweigger,* who thinks that by it degrees of astigmatism as small as $\frac{1}{20}$ or $\frac{1}{30}$ may be recognized.

Another test, perhaps more delicate, though depending on the perceptive power of the patient, is given by the optometer, as described in a case to be reported.

Mr. B., æt. 23, besides an imperfection in the right eye, the result of a wound of the sclerotic close to the cornea some fourteen years previously, was affected with compound myopic astigmatism in both eyes.

By means of an optometer, consisting of a convex lens of four inches focus, through which the eye to be tested looks at a movable card, on which fine lines are drawn radiating from a point in various

* Archiv für Ophthalmologie, 1863. Vorlesungen über den Gebrauch des Augenspißels, Berlin, 1864.

directions, it was found that for the right eye the vertical line of the card remained distinct at a greater distance than the other lines, and accordingly it was inferred that the eye was weakest in refractive power in the horizontal meridian, the one perpendicular to the line of the card the last to become indistinct as the card was gradually removed from the eye. This appears from the consideration that this meridian, admitting of being accommodated for the distance at which the vertical line was seen distinct, could thus be accommodated for a greater distance than any other could be and therefore was weaker than the others.

An approximative value of the refractive power of the horizontal meridian was also given by the optometer,* viz., myopia $\frac{1}{36}$.

Having learnt thus much, the next step was to determine this refractive power more accurately by means of vision for the distance through a narrow slit and a spherical glass. It was found that the eye, the right, without any glass had at twenty feet vision $\frac{1}{2}$; through a horizontal slit had vision nearly $\frac{1}{2}$; through this slit and concave 40 vision $\frac{2}{3}$; through the slit and concave 36 vision nearly equal to 1. From the last observation it was inferred that the horizontal meridian was myopic $\frac{1}{36}$.

To find the refractive power of the vertical meridian, which we have already seen was stronger, that is, in this case, more myopic than the horizontal, concave spherical 36 was combined with a concave cylindrical, with its axis horizontal, commencing with the weakest. It was found that concave spherical 36, in combination with concave cylindrical 30, gave the best result—vision nearly equal to 1.

It thus appears that while horizontally the eye was myopic $\frac{1}{36}$, it was vertically myopic $\frac{1}{36} + \frac{1}{36} = \frac{1}{18}$, nearly.

With concave spherical 20, which the patient had been using, and which is too strong for one of the principal meridians and too weak for the other, vision was pretty good, but less so than with the combination of spherical and cylindrical as above.

By a similar examination, the other eye, the left, was found to be myopic horizontally $\frac{1}{18}$, and vertically $\frac{1}{18} + \frac{1}{36} = \frac{1}{12}$; with corresponding glasses, concave spherical 10 combined with concave cylindrical 30, axis horizontal, vision was equal to 1. Concave spherical 10 was not as good alone as when combined with the cylindrical.

It will be noticed that the cylindrical portions of the combinations are the same for the two eyes, but the spherical portions are different.

The above glasses suited for the distance, but for near objects it

* By means of Javal's binocular optometer, an instrument somewhat similar to the one described, but having, besides other advantages, an apparatus for bringing before the eye to be tested a series of concave cylindrical glasses of various powers and with their axes in the desired position, that is, parallel to the meridian of least refraction, we can ascertain directly the difference of the two principal meridians, this difference being equal to the refractive power of the glass, which enables the eye to see all the lines of the card equally distinct. For an account of Javal's method, see *Annales d'Oculistique*, 1865.

seemed better to make the far point 36 inches, it being found that the right eye, somewhat imperfect from the previous injury above mentioned, read more easily with the cylindrical $-\frac{1}{30}^c$ alone than with the glass for distance.

For the left eye the glass to make the far point 36 inches would be concave spherical 14 in combination with concave cylindrical 30, or, as shortly written, $-\frac{1}{14} \cdot \bigcirc -\frac{1}{30}^c$; but as through this the letters appeared too small, a weaker spherical, 16, was adopted instead of the 14.

After selecting the glasses it remains to have them carefully set; a matter of considerable nicety, the cylindrical axes requiring to be properly directed, and the eyes to look nearly perpendicular through the centres of the glasses.

In the above case we found the weakest meridian to be myopic, and in consequence knew the strongest to be more myopic. If in any case we could determine the strongest meridian to be hypermetropic, the weakest would be more hypermetropic, and with this knowledge we could proceed in a manner analogous to that described in the case reported, using convex glasses instead of concave, and in the determination of the refraction of the strongest meridian by means of a slit and convex glass, giving the preference to the strongest convex with which the best vision in the distance could be obtained.

CASES OF CROUP.

[Read before the Boston Society for Medical Observation, December 17th, 1866, and communicated for the Boston Medical and Surgical Journal.]

By CHARLES D. HOMANS, M.D., of Boston.

CASE I.—F. S., aged 5 years, was brought to the City Hospital, Sept. 19th, at about 11 o'clock, A.M. She had been hoarse the day before, had coughed somewhat, and complained of soreness of the chest. She had been seen by Dr. J. G. Blake, on the 18th, who did not then regard her as very sick, and found no membrane in the fauces. Two other children of the same family, living in a damp, badly ventilated lodging at the South End, have died of the same disease.

On entrance, she was blue in the face, gasping for breath, entirely unable to speak; death seemed imminent; the soft palate and uvula, with the tonsils, were covered with a soft, dirty-white exudation. She was etherized and tracheotomy immediately performed, the tube being inserted about two inches above the sternum; a small piece of grayish false membrane was pulled from the trachea through the wound at this time. Very shortly after the operation her countenance recovered its color and respiration became less labored. She was placed in a room filled with steam, and soon went to sleep. At 12½, P.M., her pulse was 144, strong; respirations 34, easy; at 2,

P.M., pulse 156, at 4, P.M., 138, and continued at about that rate all night. She slept for about two hours, having taken seventy drops of tincture of hops. During the afternoon, she took egg-nog at short intervals, about one drachm at a time, and in the evening beef-tea was taken with avidity; thirst was very great. Tube cleansed at midnight.

Sept. 20th.—At 2, A.M., she had a momentary spasm of the muscles of the limbs; at 6, she seemed hot and restless, and the beef-tea and stimulants were omitted. At 7½, quiet; pulse 126, firm; respiration easy. The pulse was steady at 125–130 during the day; she slept considerably; general appearance better, though the skin is rather dusky. She drank one half pint of milk during the day, water *ad libitum*, and took nothing else. The air was kept exceedingly warm and moist by means of a faucet in the steam-pipe by which the room was heated. Tube cleaned four times. Her tongue was clean at the edges, but covered in centre and back with a thick, whitish brown fur; respiration rude all over chest, with many coarse râles.

21st.—Complexion dusky. Slept from three to four hours in the night. Pulse 130, good. Takes milk, beef-tea and egg-nog.

22d.—Slept well. Pulse 120, not very strong. Can force air through the mouth when the tube is corked, but cannot inspire.

24th.—Countenance still dusky. Has coughed up through tube several times a thin creamy fluid. Pulse rather feeble. *R.* Syr. ferri iodid., gtt. x., three times daily.

26th.—Coating of fauces clearing off. Pulse 130.

27th.—Creamy discharge increased; it comes through and around the tube. Countenance bluish.

Oct. 2d.—Still unable to inspire through mouth and nose, but can force air out through glottis with difficulty.

4th.—Countenance somewhat less dusky; discharge from tube less.

8th.—Was able yesterday, for the first time, to breathe by the mouth and to speak, though very hoarse. The inner tube has been removed and the outer left in, but corked, the air passing through openings made for the purpose. From this time she slowly improved, gradually gaining strength and losing the dusky hue of her skin. The hoarseness continued in some degree as long as she remained in the hospital. Oct. 15th, the tube was removed from the trachea, and the opening closed very quickly. Nov. 1st, the use of steam was given up, and on the 17th she was discharged, well.

CASE II.—J. S., æt. 6½ years, sister of the preceding, was brought to the City Hospital in the morning of Sept. 22d, having had a cough, with hoarseness, since the 16th inst. There was a white fibrinous exudation on the back of the fauces and on the tonsils, her tongue was covered with a smooth, white coat, her appetite poor, her countenance natural, but with an anæmic look. Her bowels were regular; pulse 105, good; respiration easy, but noisy; cough croupy, not

very hard, but with three or four paroxysms daily. Her voice was quite indistinct, and at evening nearly gone. She was placed in the same room with her sister, under the influence of steam, and had the same diet—beef-tea, milk and egg-nog. In the evening the pulse was 120, not strong; the respiratory murmur was audible all over the chest; there were sonorous and mucous râles everywhere, but principally in left back. This state of things continued for four or five days. On the 24th, ten drops of the syrup of iodide of iron were ordered her three times a day; and, on the 26th, the membrane had disappeared from her throat, and she appeared generally better. Her voice returned on the 28th, though very hoarse. Oct. 2d, she had much improved in every way, though still quite hoarse. She was moved to the large female ward with her sister on the 1st of November, and was discharged well, Nov. 17th, her voice being nearly natural.

CASE III.—S. M., æt. 8 years, was brought to the City Hospital at 7½, P.M., Oct. 2d. Had been sick a week with symptoms of croup, and had suffered from excessive dyspnoea for thirty-six hours previous to entrance. Her pulse was about 130, dyspnoea extreme, countenance livid, skin cool, and she was unconscious. The trachea was immediately opened, the operation occupying but a few minutes, but during that time the respiration had ceased, the face became very livid, and the pulse scarcely perceptible. Air was blown in and sucked out of the lungs by means of a catheter in the wound, and the tube inserted as soon as possible, respiration soon becoming regular and easy. She was removed at once to the steam room. Fifteen minutes after the operation her pulse was 120, but it grew more rapid afterwards, and in two hours was 162; respirations 48; her consciousness, however, had returned, and she was able to sit up and swallow water. Milk-punch and beef-tea were directed for her to drink, or to be given by enema if necessary; also, 3 i. of a saturated solution of chlorate of potash every two hours.

Oct. 3d.—Seemed very weak. Respirations quiet, about 30; pulse 130. There is a grayish coating over tonsils, posterior fauces, uvula and back of tongue, said to be less general than before entrance. A tenacious, frothy mucus is coughed up through the tube.

4th.—Had a good night. Expectoration as above, more abundant. Upper part of neck, especially on left side, is much swollen.

5th.—Neck considerably swollen; no respiration by mouth; tube was removed, on account of irritation, with relief; tongue is entirely covered with a thick white membrane; fauces as before; pulse 120.

6th.—More expectoration, more easily raised; respiration easy, through opening in trachea; tube has not been re-inserted, as it did not seem necessary. There is an erysipelatous blush about the wound.

7th.—Some appetite; otherwise as before.

8th.—Wound is covered with a white coating, similar to that on

the tongue. Erysipelas fading. Patient sits up in bed and reads. Takes food with relish.

Oct. 10th.—Membrane gradually disappearing from wound and mouth. Can expire quite forcibly through the mouth.

12th.—Spoke aloud to-day for the first time; quite hoarse. Neck much less swollen; wound in trachea still open, but gradually filling up with healthy granulations.

15th.—Wound closed, so that no air comes through. Voice still quite hoarse; eats and sleeps well; countenance of good color; membrane nearly gone from the mouth.

16th.—Steam shut off. Patient dressed.

21st.—Wound filled with granulations, even to the surface of the skin; edges brought together by adhesive plaster.

Nov. 3d.—Discharged, well. Tonsils somewhat enlarged; voice still rather hoarse, though improving every day.

Within the past three months I have seen two other cases of croup, for the relief of which I performed tracheotomy.

One was a child of two years, who had been sick for a week without seeing a physician; the gentleman then called in sent for me in consultation. I found the child moribund, apparently, respiration exceedingly difficult and very noisy, voice gone, countenance livid and pulse very frequent. The trachea was opened as soon as possible, but the child died shortly afterwards.

The other case was in a child $2\frac{1}{2}$ years old, who had had croupy symptoms for three days, and had been treated by steaming the air and otherwise very rationally. When seen by me, there was lymph on the tonsils, neck somewhat swollen, countenance somewhat dusky, respiration labored, cough very hoarse and voice a whisper; there had been but very little sleep for forty-eight hours. The trachea was immediately opened and the tube inserted without any trouble, the child being etherized. Immediately after the operation the child dropped into sleep which lasted for several hours, the breathing became less labored, and recovery seemed possible; but the next day the symptoms became worse, though never so bad as before, and the little patient died of exhaustion on the third day after the operation.

In these cases the recoveries corresponded to the general rule that the older the child the more apt it is to get well, if attacked with membranous croup, more especially after tracheotomy has been performed. There might be a question whether the first two cases ought not to be called diphtheria, but there was no symptom of the latter disease present which did not also belong to croup. The fact that four children in the same family were attacked with the same disease, of whom two died, would seem to point to a disease highly infectious or contagious. In many cases, however, the diagnosis is very difficult between the two diseases; in fact, it seems to me impossible sometimes to say which is the disease we have to treat, there being no entirely characteristic symptom in one which may not occur

in the other. The French include both these affections under one name—"diphtherite"—and it certainly seems to me much more philosophical than to have two names for cases which differ more in degree than in anything else, the diagnosis of which is so often very uncertain. The third case reported is quite interesting, as the child was very low when operated on, and it was the opinion of the physicians and surgeons of the Hospital, many of whom were present accidentally, that the case would be fatal; in fact, artificial respiration was necessary: this was done by Dr. Buckingham, who had seen the patient before her entrance to the Hospital. The long persistence of the hoarseness and the dusky hue of the countenance in the first and third case is also worthy attention.

CASE OF PHLEGMONOUS ERYSIPELAS, FOLLOWING THE HYPODERMIC INJECTION OF A SOLUTION OF SULPHATE OF MORPHIA.

By J. W. MERRIAM, M.D.

[Communicated for the Boston Medical and Surgical Journal.]

A FEW weeks ago, while suffering from an attack of lumbago, resulting from exposure to a draught of cold air on board steamer, I took an hypodermic injection of a solution containing half a grain of sulphate of morphia. The injection was made over the *supinator longus* of the left arm. Care was taken to avoid puncturing a vein, and not even a drop of blood followed on withdrawing the syringe. The next morning the arm was somewhat sore to the touch, and the neighborhood of the wound a little more red than usual, but no importance was attached to these symptoms, as they had frequently occurred before in my own person, and had disappeared without any serious results. I did not look at the arm again till the following day (about forty-eight hours after the injection), when I noticed around the puncture an ecchymosis of the size of a quarter of a dollar, sharply defined, of a bright red color, which did not disappear on pressure. The forearm was considerably swollen and inflamed, and began to assume an erysipelatous aspect. It was kept painted with tincture of iodine for the next twenty-four hours, until on the following day, Dr. N. F. Martin, the Post Surgeon at Fort Mojave, discovered the presence of matter, and substituted a poultice for the iodine. In the course of a couple of days a free opening was made, the matter evacuated, and the poulticing continued.

The whole back of the forearm was now exceedingly tender, and the skin of a bright red color, tense and shining. A wash of acetate of lead and opium removed all the unfavorable symptoms; the wound was dressed with Turner's cerate, and the case rapidly pro-

gressed to a favorable result. Tincture of the chloride of iron was taken internally throughout the attack.

I have thought it worth while to report this case, as it illustrates the fact that erysipelas may follow the most simple operation, even when performed upon a person whose general health is robust, while more important operations, under apparently the same circumstances, may not be followed by any such consequences.

I do not know why erysipelas should have occurred in my case, but I should not be deterred, in consequence of it, from resorting to similar treatment again through fear of a like result.

In April last, I submitted to a painful operation, skilfully performed by Dr. Coolidge, of Boston, after which, during a period of seven days, fifteen different hypodermic injections of Majendie's solution were given me, with no more ill result than a slight ecchymosis of a diffused character, which passed through the usual changes of color noticed after a bruise, and which never even threatened erysipelas.

Fort Mojave, Arizona Territory, Dec. 1, 1866.

ATROPINE AND MERCURY IN ACUTE IRITIS.

By T. PRIDGIN TEALE, Jr., M.A., Surgeon to the General Infirmary at Leeds.

DURING the last two years and a half I have recorded in a tabular form the cases of acute iritis which have come under my care, in order to test the value of certain views of treatment which I had arrived at from the observation of such cases previously to this period. The exactness of the results is so marked, and the sequence of events so definite, that I feel justified in relating the cases to the profession, and in deducing from them certain principles of treatment, which, if not new, may at any rate not be generally known or acted upon in medical practice.

In speaking of iritis, in this paper I exclude from consideration all cases of traumatic origin, all those which are secondary, i. e., caused by extensive adhesions of the iris to the capsule of the lens left by previous attacks, all subacute forms travelling forward to the iris from the deeper structures, and all cases occurring in children. These are excluded in order to simplify the inquiry, and restrict it to those acute forms, generally syphilitic, which occur in the previously healthy eye of the adult, and which, if neglected, rapidly endanger vision.

For treating such cases many remedies have been and are still employed—venesection, leeches, blisters, opium, purging, belladonna, turpentine and mercury. Some surgeons use many of these in combination, others depend upon some single drug, others denounce particular drugs as injurious or useless. Some claim opium as a cure for all cases, with some belladonna is omnipotent, with others

mercury and bloodletting are indispensable. In this variety of practice where lies the truth? Can we arrive at it? I trust that the following records will be accepted as an instalment in this inquiry, as they have been carried out in order to test the relative value of atropine and mercury, to ascertain how much each remedy can do, and to determine if possible the most effectual way of employing them.

The cases here recorded appear to me to justify the following conclusions and principles of treatment.

1. Iritis can generally be cured, quickly and perfectly, by atropine alone, or by atropine and mercury combined, without the aid of other remedies. How far opium, blisters, leeches, and venesection aid and accelerate progress I have not yet tested, wishing in the first instance to determine the value of the remedies under consideration, and then to make the results herein obtained a starting point for further inquiry.

2. The presence or absence of syphilis does not affect the question of treatment.

3. Many, perhaps one-half, of the cases of iritis, *whether syphilitic or not*, can be cured by *atropine alone*.

4. Those cases in which atropine fails to dilate the pupil in twenty-four or forty-eight hours require mercury. In occasional cases the application of leeches renders an eye susceptible of dilatation which at first was unaffected by atropine.

5. When mercury is required, it ought to be introduced into the system rapidly.

6. If the system is to be affected by mercury, the mercury ought to be introduced by *the skin, not by the stomach*. When this drug is introduced by the stomach, the digestive powers are depressed at the very period when their healthy function is most needed. When introduced by the skin, its full remedial effects are obtained without any impairment whatever of the powers of nutrition. It is my rule never to introduce mercury by the stomach when I wish to obtain rapidly the constitutional effects of the drug.

7. In those cases which require mercury it is sufficient to render the gums slightly tender. When the gums are even slightly affected, we have therein evidence of the introduction of mercury into the system in quantity sufficient to turn the scale in favor of health, and carry the case to a successful issue. Therefore, the moment we find the gums undoubtedly tender, or beginning to be tender, we may suspend the drug.

8. In most cases the constitutional effects of mercury, indicated by tender gums and improvement of symptoms, may be obtained on the second, third or fourth days, provided the patient be confined to bed. Absorption of mercury by the skin appears to be *much more* rapid when the patient is confined to bed than when he is allowed to go about as usual.

9. Atropine should be used during the whole period of treatment, except where it causes great pain or increases conjunctival irritation, in which case it may be *temporarily* suspended, or dissolved in glycerine and applied to the skin.

10. That in cases requiring mercury the coincidence of tenderness of gums, of relief from pain, and of the action of atropine on the pupil is almost absolute, even to an hour or two. Perhaps in cases more severe than those recorded, with great effusion of lymph, the visible effects of atropine may be delayed to a later period. On this point I do not possess evidence.

Let us now inquire how far these conclusions are justified by the cases, and what are the general results of treatment.

Treatment.—Of the twenty cases, eleven were treated by atropine alone, nine were treated by atropine and mercurial ointment combined. In one or two cases, a dose of Dover's powder was given when the pain was excessive, and in some others salines were given during the application of the mercurial ointment if the skin was hot and not perspiring. Leeches were used, I believe, in three cases only. Two cases had taken mercury before coming under my care.

Question of Syphilis and its relation to Treatment.—Thirteen cases were undoubtedly syphilitic. Of these, five required mercury; eight recovered under atropine alone. In seven, syphilis was either denied or not made out. Of these, four required mercury; three were cured by atropine alone.

Rapidity of Mercurial Effects.—Of the nine cases in which mercury was required, one used the ointment twenty-four hours; a second twenty-four hours, having previously taken blue pill five days without benefit; a third and fourth used the ointment two days, a fifth and sixth three days, a seventh and eighth four days, the ninth twelve days. So that of nine cases of iritis in which mercury was used, only one required the application of the ointment for more than four days.

Rapidity of Recovery.—Of the twenty cases, seven recovered good sight and pupil within two weeks; one within a "short time"; five within three weeks; three within four weeks; three within eight weeks; one within three months; the twentieth was relieved from pain, with partial recovery of sight.

Perfection of Sight.—Fifteen read No. 1 Jaeger, three (including the second eye of one case) read No. 2, two read No. 6, one could read No. 18.

Perfection of Pupil.—Twelve recovered with a perfectly active pupil free from adhesions, in five there were slight or single points of adhesion, in one there was closed pupil, and in two the condition of pupil is not recorded.

Duration of Disease before Treatment.—In eight the disease had existed not more than a week before coming under my care, in four

not more than two weeks, in six less than two months, in one three months, and in one three months and a half.

Condition of Vision before Treatment.—In six cases vision was limited to perception of shadows; in two it was described as dim; in two the patient could not read Jaeger No. 20; in three the patient read No. 20; in two No. 16; in three No. 4; in two the condition of vision is not recorded.

Disappearance of Mercurial Effects.—In all the cases, although no special note is made on this point, the constitutional effects of mercury passed off in a day or two, and in none do I recollect to have met with any injurious effect whatever which could be traced to the use of mercury.

Relapse of Iritis.—In one case only have I any record of a relapse, and this relapse disappeared rapidly under atropine alone. This fact tends to confirm Gräfe's assertion, "that the principal cause of recurrence of iritis is the existence of synechiæ;" in other words, when iritis is cured with a pupil free from adhesions, it seldom evinces a tendency to recur.

Mode of using Atropine and Mercury in Iritis.—Use of Atropine.—On first seeing a case of iritis, whatever its degree, I order atropine, of the strength of two grains to the ounce, to be dropped into the eye six times, at intervals of five minutes, in the morning, and six times also in the evening. On the following day, if the pain is lessened and the pupil is beginning to dilate, I conclude that the case is slight, and that atropine alone will cure it. If, however, the pupil is affected, and the symptoms unabated, I commence mercurial treatment without delay.

Use of Mercury.—The patient is ordered to lie in bed, to wrap round each arm a broad piece of flannel, well smeared with mercurial ointment, and to wear this mercurial bandage until the gums are slightly tender, a small quantity of fresh ointment being added every evening. It is not necessary to rub in the ointment. I suspect that the "rubbing in," by producing irritation, impairs the absorbing power of the skin.

Discontinuance of the Mercury.—As soon as the symptoms of the disease begin to abate, or the gums begin to be tender (and these two conditions are generally coincident), the mercury is discontinued. In none of these cases has mercury been given by the mouth (except in two cases, which had been so treated before coming under my care), and in none has the ointment been rubbed in.

Discontinuance of the Atropine.—As soon as the pupil is fully dilated, as far as any adhesions will permit, the instillation of atropine is reduced to once or twice a day, and continued at this rate as long as redness or tenderness of the eye remains.

This mode of treating iritis coincides very nearly with that described by Gräfe (On Iridectomy, New Sydenham Society, 1859), in using atropine as the main remedy, and mercurial inunction in cases

too severe to yield to the atropine. It differs from it in dispensing with *rubbing in*, and with the use of mercury by the mouth. Mr. Dixon, in his early remarks on iritis, condemns belladonna; in his later work he speaks timidly of its use as an appendage to other treatment. The cases here recorded prove Gräfe to be correct in claiming atropine as the sheet anchor, and in making other remedies subordinate.

William Lawrence and most ophthalmic writers give mercury by the mouth, and do not mention its introduction by the skin. They speak of the coincidence of the improvement in the symptoms with the first appearance of constitutional effects of mercury, and make this the signal for reduction, not as I have done, for the entire omission of mercury.

Bloodletting, local and general, is usually urged as indispensable in iritis. That it is not so I think the foregoing cases prove. I believe, however, that local bloodletting may be a valuable addition to other means of treatment, and that it facilitates the absorption of atropine and accelerates its effects.

Note on the Action of Atropine.—Writers on iritis generally rest the credit and value of atropine or belladonna on its powers of dilating the pupil, in setting at rest the muscular tissue of the iris and ciliary body, and in diminishing the risk of the formation of synechiæ. I cannot, however, but suspect that it does more than this—that it acts as a direct sedative on inflamed and congested tissues, and that much of its power depends upon its influence in contracting the bloodvessels. I cannot in any other way explain the remarkable value of this drug in many cases of ulcer of the cornea, and so-called strumous ophthalmia, a large proportion of which I treat by atropine only. Nor can I explain in any other way the immediate improvement, and rapid and complete recovery by means of atropine alone, of many cases of syphilitic iritis. That atropine does reduce the size of bloodvessels I have no doubt, having several times satisfied myself of the fact by observing the calibre of delicate vessels traversing the cornea, before and shortly after the instillation of atropine.—*New Orleans Medical and Surgical Journal*, from *London Ophthalmic Hospital Reports*.

A PILL-BOX factory in Brandon, Vt., owned by Newton & Thompson, uses two thousand cords of wood per annum, and employs sixty men, boys and girls. The factory is run night and day a portion of the year. They have in use ten of Newton's self-operating pill-box and spool machines. They have been in operation about eight years. The factory is capable of turning out about five hundred gross of boxes per day.—*Druggists' Circular*.

Bibliographical Notices.

Conservative Surgery, as exhibited in remedying some of the Mechanical Causes that operate injuriously, both in Health and Disease. With Illustrations. By HENRY G. DAVIS, M.D., Member of the American Medical Association, &c. New York: D. Appleton & Co. 1867. 8vo. Pp. 314.

This is a handsome volume, but a little too diffuse, both in title and in text. The author aims to treat not only all the deformities usually included under the head of orthopædic surgery, but also to comprise the pathology and treatment of fractures and dislocations, as well as diseases of the joints, and phthisis pulmonalis. And this brings us to its second fault, if fault must be found—that its author is too persistent to be agreeable, in urging his claims to priority in invention of means adapted to the ends he seeks. Thus he claims precedence in the use of elastic extension over Drs. Gurdon Buck and Swinburne (pp. 5 and 6), Louis Bauer (p. 138), David Prince (p. 160), Charles F. Taylor (p. 268), Dr. Barwell of London, and, finally, Dr. Sayre, of which latter claim more anon.

Allowing all these claims to priority to be true, we conceive that it would have been in better taste and equally effective, to have embodied them all in an introductory or a closing chapter. Particularly do we deprecate such a controversial spirit as is shown on pages 139, 161, 264, 265 and 266.

What we may not unjustly term the too great confidence of the specialist in his remedy, we conceive to be shown in such wholesale statements as the following:—

“Again we inquire what there is in a case of morbus coxarius, or in ulceration of any of the joints, to destroy life, when the treatment by ‘continued elastic extension’ is practised from the commencement? We can see no reason, neither has our experience, covering as it does a period of many years, presented a single instance to lead us to doubt this conclusion. We think the time is not far distant when our professional brethren will fully agree with the statement we made in 1860, before the Academy of Medicine of this city, viz., that a patient ought never to die from the direct effect of either morbus coxarius, white swelling, ulceration of the vertebræ, or of any other joint.”

Happy indeed the surgeon, or the Hospital, which could claim such results.

First, in regard to Fractures, we would notice what seems to be a very excellent mode of treating fracture of the patella, by a double extension strip coming down on each side of the foot, and the adhesives crossing each other above the patella, and covering, obliquely, the whole muscular expansion of the *quadriceps extensor femoris*. This would promise to be much more effectual than the old method by position only, since it pulls on directly and exhausts the muscular agents of displacement.

Next, on p. 33, in treating of intra-capsular fracture of the femur, stress is laid upon the line of fracture being usually oblique, and upon the existence and preservation of certain ligamentary fibres of the capsule, or the periosteum, which may remain unsevered, and afford a

nucleus for callus to become deposited around. This attachment is frequently broken by the surgeon in his examination, when greater shortening at once occurs.

On pages 80 and 81, a case is given of a young lady treated at the Massachusetts General Hospital for morbus coxarius, but considered by the author to have been chronic rheumatic arthritis, and successfully treated by extension.

On page 93, is revived the rumor of one of those accidents in treatment, which, if they occur, ought never to be published of a professional brother.

Talipes is successfully treated by continued elastic extension to overcome the contracted and shortened ligaments and muscles, and plates of ingenious and simple apparatus are given.

The restoration of *genu-valgum* seems to us to be more philosophically accomplished by the author's mode of restoring the strength of the enfeebled and deformed muscles and joints, than by any cumbrous fixed apparatus.

Dr. Davis mentions one indication of a lateral curvature of the spine with rotation, not described by others: "A person that has a decided curve of the spine with gyration, will apparently take a long step with one foot, and a shorter one with the other. This arises from the fact that the pelvis does not stand parallel with the chest, consequently one limb stands a little in advance of the other, and retains this difference in walking."

In joint-disease, rigidity of the muscles is properly insisted on as a diagnostic symptom. Mr. Cooper Forster was the first to mention the constant presence of false, muscular ankylosis in disease of the hip, we believe.

Many excellent diagnostic points of Pott's disease of the spine are given, as the following: "The child prefers quietude; is unable to join in the sports of his companions, without desisting and resting, from shortness of breath.

"He seeks at all times to support the back by placing his arms on table or chair.

"In stooping to pick something from the ground he bends both the hip and knee joints, and gradually lowers his body upright, until his hands can reach the object, when he as gradually and carefully rises to the erect posture again.

"The pain attending this deformity is peculiar, and is felt around and in front of the body, and not so much over the spine.

"Pain in the stomach is complained of when the disease is in the dorsal portion of the spine.

"Stiffness of the spine is noticed in all postures and movements.

"The patient walks more than usually erect, with the arms and shoulders thrown back."

Treatment by mechanical support is advocated, to the exclusion of the supine position; which latter we believe to be more effectual.

On the whole we may thank the author for a pretty complete monograph on his specialty; and whether all his claims to priority be allowed, or not, credit is due to him for an ingenious adaptation and employment of the extension by adhesive strips of Dr. Crosby, the use of vulcanized rubber, which has wrought a revolution in surgical apparatus, and the raising of the foot of the bed, or counter-extension

by the perineum, and extension by weight and pulley, usually ascribed to Dr. Buck.

The most unpleasant part of the book to discuss is the concluding chapter on the controversy between the author and Dr. Sayre, as to priority of discovery in the use of the splint for morbus coxarius.

According to Dr. Davis he had fully established the treatment of hip disease by "continued elastic extension," in 1856, and his cases and treatment had been published in 1857.

To use his own words, "At the close of the year 1859, there came into my office an entire stranger to me, and introduced himself as Dr. Sayre, of New York, saying that he came 'to inquire about my mode of treating Hip Disease,' remarking, 'that he had heard much about it, and would like to have it explained to him.' I cheerfully complied; explained the principle, and took him to see a case. He expressed himself highly gratified. He then wished me to see a case of his, where he had divided the tendons, which I did, and applied my splint.

"In less than three months, Dr. Sayre published a paper in the 'American Medical Monthly,' claiming as his own all these discoveries in the treatment of joint diseases. The next month he read a paper before the American Medical Association, claiming these discoveries as his own; and received congratulations on the importance of the discoveries he had made. In publishing this paper, however, he alluded to my splint."

Dr. Post, Chairman of a Committee of three Surgeons appointed by the New York Academy of Medicine to investigate Dr. Davis's mode of treatment, says, "There is no question but that Dr. Davis is entitled to the credit of having introduced this method of treatment to the profession;" "the methodical application of the treatment is due to him, and were it not for him the profession would have known nothing about it."

Comment is needless, except to say that this is a just excuse for much of Dr. Davis's acerbity.

A Practical Treatise on Diseases of the Skin. By J. MOORE NELIGAN, M.D. Fifth American from the Second Revised and Enlarged Dublin Edition. By T. W. BELCHER, M.D., Physician to Dublin Dispensary for Skin Diseases, &c. Philadelphia: Henry C. Lea. 1866.

To the busy practitioner who desires to know if anything has been done in dermatology since Neligan published his first edition, this volume would furnish interesting matter for examination. The editor seems to have carefully consulted what has been written in books and medical journals since that time, and has attached to the original matter brief statements of the views of such writers under their appropriate divisions. It makes thus a medley of opinions relative to the pathology and treatment of skin diseases which must be very confusing to the physician, and is altogether inappropriate to the requirements of the student. First comes the substance of the author arranged under the old system of classification of Willan slightly modified, with a statement of the editor's approval or dissent in many cases; and then follow short notices of the heterogeneous and contradictory opinions of modern writers, leaving a very indefinite impression of the whole subject upon the reader's mind. The book is no longer

Neligan's Treatise on Diseases of the Skin, nor does it serve the purpose of making one properly acquainted with the present state of Dermatology. The Editor has failed in attempting to combine the two projects in one book.

We notice a good many errors in the text, for which very likely the American reprint is answerable.

A Manual of Auscultation and Percussion. By M. BARTH and M. HENRI ROGER. Translated from the Sixth French Edition. Pp. 161. Philadelphia: Lindsay & Blakiston. 1866.

THIS little book contains a clear and concise account of the principles upon which these all-important methods of diagnosis are based, of the physiological action of the organs to which they are applied, and of the modifications in the physical phenomena they exhibit in their various pathological conditions. We can recommend it both to student and practitioner as a reliable and convenient manual.

Notes on Epidemics. For the Use of the Public. By FRANCIS EDMUND ANSTIE, M.D., Senior Assistant Physician to the Westminster Hospital. First American Edition. Philadelphia: J. B. Lippincott & Co. 1866.

THIS useful treatise of one hundred pages appeared originally in the *British Quarterly Review*, and was published in its present expanded form to furnish information to the non-medical public concerning the nature, premonitory symptoms, and means of prevention of epidemic and contagious diseases. It is in no way intended to serve as a book of domestic medicine, but to point out the character of those symptoms which demand the immediate presence of the physician. It contains an introductory chapter on the general causes of epidemics, and the importance of the popular use of the thermometer as a test of the seriousness of any threatened disease. The remainder of the volume is devoted to an account of Relapsing Fever, Typhus and Typhoid Fevers, Cholera, Epidemic Diarrhoea, Scarlet Fever, Diphtheria, Measles, Smallpox, Whooping Cough, and Influenza.

The American Editor, Dr. William A. Hammond, has done well to re-publish the book for our people, and we hope it may have a wide circulation.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, JANUARY 24, 1867.

TRANSACTIONS OF THE NEW HAMPSHIRE MEDICAL SOCIETY FOR THE YEARS 1865 AND 1866.

THE Transactions of the Medical Society of New Hampshire for the past two years, which have just reached us, are full of interest, and give evidence of an active, intelligent, philosophical spirit among its members, which augurs well for the professional care of the commu-

nity in which they live. The publications consist in the main of eight papers, none of which lay any claim to the ambitious title of monograph, but which are full of practical hints and suggestions, and in most instances show their authors to be well read and learned in the history as well as the science of medicine. Coming from men engaged in the active duties of their profession, in a State which does not contain any very large cities or towns, at least when compared with the large commercial centres of the country, these gentlemen have not ventured to cumber the annals of medicine by any ambitious attempts at laying down new laws, or any hasty and ill-digested views based upon a too-limited experience. Instead, they have given us good sense, sound judgment, reports of interesting cases accurately observed, a wise conservatism in discussing some of the ultraisms of the time, the whole inspired by a high sense of professional honor and accountability. We have rarely met with a collection of similar papers which contained so little that is commonplace.

The annual address for 1866, by the President, Dr. W. D. Buck, of Manchester, is a brief sketch of some of the most noticeable points in the present condition of the medical profession. It is not devoted to the too common glorification of physicians, but while it points out some of the most noted instances in which medical science has advanced of late, it refers with marked emphasis to the dark questions which still baffle our inquiries. Touching upon the different departments of medical science, the author avails himself of the occasion to give some of the practical results of his own experience. His cautions against the narrow-mindedness which exclusive attention to a specialty or an over-anxiety to do surgical operations is apt to generate are timely and wise, and illustrated by a genial humor which has a telling effect. Here is a paragraph from what he says of the prevailing mania for over-treatment of real or imaginary uterine disease; somewhat burlesque perhaps, but not without a strong infusion of truth:—

"It seems to me that just such a raid is being made upon the uterus at this time. It is a harmless, inoffensive little organ, stowed away in a quiet place. Simply a muscular organ, having no function to perform save at certain periods of life, but furnishing a capital field for surgical operations, and now-a-days subject to all sorts of barbarity from surgeons anxious for notoriety. Had Dame Nature foreseen this, she would have made it iron-clad. What with burning and canterizing, cutting and slashing, and gouging, and spitting, and skewering, and pessaring, the old-fashioned womb will cease to exist except in history. The Transactions of the National Medical Association for 1864, have figured one hundred and twenty-three different kinds of pessaries, embracing every variety, from a simple plug to a patent threshing machine, which can only be worn with the largest hoops. They look like the drawings of a turbine water-wheel, or a leaf from a work on entomology. Pessaries, I suppose, are sometimes useful, but here are more than there is any necessity for."

But we have not space to analyze minutely Dr. Buck's discourse, and must dismiss it with the remark that the honor of electing him President of the Society was evidently well bestowed.

Passing by the Address from the President of Dartmouth College,

Dr. Albert Smith's paper on the Abuse of the Topical Treatment of Diseases of the Uterus, Dr. Charles F. P. Hildreth's oration on the "True Practice of Medicine," the Report on Surgery by Dr. A. H. Robinson, and others, all of which are worthy of particular notice, we come to a paper by Dr. A. B. Crosby, on the Significance of Pain, which just now is deserving of special consideration. It is an argument to show the truth of the following propositions:—

"That pain is not an unmixed evil, but is a beneficent gift of God designed for the self-preservation of all animals, and that each is endowed with this sense to an extent only sufficient to insure this result."

"That even in disease pain is not an unmixed evil, but, on the contrary, is one of the most valuable pathognomonic signs."

"That the intensity of pain is largely dependent upon the mental condition of the person suffering."

Of course it cannot be claimed that these propositions are entirely new; but in the search after new truth men are too apt to overlook the old, and need to have it re-presented at times to keep them from running into vagaries and extravagances. The essay of Dr. Crosby contains many interesting facts and suggestive thoughts. Its arguments are ingenious, and it gives evidence also of the general culture of the author. A number of curious anecdotes which he relates, illustrative of the want of sensibility of the lower animals to pain, have much significance in connection with the subject of vivisection, although he does not himself mention them with this object. The following instance, which occurred under his own observation, is a case in point:—

"During the bloody battle of the Fair Oaks I saw the fore leg of a horse carried away by a solid shot. He fell but made no noise, and so far as I could see gave no evidence of pain. On the contrary, he soon struggled on to his three legs and commenced feeding. In stooping I saw the stump frequently strike the ground, but the horse gave no signs of disturbance. During the engagement the Federal forces were driven back some two miles before the impetuous onset of the rebel army, and I lost sight of him. Thirty-six hours afterwards, the lost ground having been recovered, I was ordered by Gen. Casey to scour the field with a corps of surgeons and ambulances for the relief of the wounded abandoned on our retreat. Among the first things that fixed my attention was the same horse which had survived the battle, quietly feeding, surrounded by the killed and wounded as they had fallen in the fight. The horse looked in good condition and seemed to pay no attention to the mutilated leg, although the bone protruded through the soft parts and the wound was filled with maggots."

Numerous other instances of similar insensibility are given.

Dr. Crosby's remarks on the significance of pain are practically important. Thus, in the case of young children, he says:—

"The significance of pain in young children might not at first seem to be easily translated, yet, if carefully watched, the signs of pain in infants are quite as constant and less frequently perverted than the same signs in adults. The cry of pain in these little ones is obstinate and long continued. If the cry is smothered and the respiration hurried, we are to look to the thorax for the cause of the pain. When

the cry is husky, the pain is generally due to some catarrhal affection, either of the larynx or trachea. When the pain is sudden and severe, as from the prick of a pin, from colic, from peritonitis, or other abdominal pain, the cry is short and rapid. When the child persists in screaming and rolling the head, the pain is generally located about the brain. It is not uncommon for infants to place their hands on the point of distress, and a physician may often entirely unravel the case by employing pressure over the different organs *seriatim*, at the same time watching the expression of the face. This matter of the relation of pain to the diseases of children is one of great importance, and could be profitably dwelt upon at length would our limits permit."

In conclusion, we may say that Dr. Crosby has sustained his propositions most ably, and his whole essay is worthy of the most careful reading. We regret that space is wanting for a more extended notice of the papers before us; they all contain valuable suggestions and do credit to their authors.

Population of Massachusetts.—We have received the following note from Dr. Allen in reply to Dr. Derby's article in last week's JOURNAL. We cannot forbear the remark that we hardly think Dr. Derby's language deserves the harsh interpretation put upon it in the last sentence:—

In the article of Dr. George Derby, in the MEDICAL JOURNAL of Jan. 17th, referring to a previous article upon the "Increase of Population in Massachusetts," I wish to correct a mistake. In comparing the cities, counties and towns containing the greatest, and the least, of the foreign element, as to the relative number of births and deaths between this class and the American, it was found by the Registration Reports that there were over thirty towns in the State which did not report a single foreign birth. The natural inference was that these towns contained scarce any or no foreign population. The deaths must be composed principally, if not wholly of the American class. Now the whole aggregate number of deaths in these towns by the Registration Reports both for 1864 and 1865 exceeds the number of births. As to the *assertions* of Dr. Derby in respect to some other points in the article referred to, or as to his *charge* impugning the *motives* of the writer, no reply at present is deemed necessary.

Nominations for Brevet Rank in the U. S. A. Medical Department.—(Concluded from page 512.)—To be Colonels by brevet, Brevet Lieut.-Colonel and Surgeon John J. Milhau, for gallant and meritorious services during the war, to date from March 13, 1865, Brevet Lieut.-Colonel and Surgeon Joseph R. Smith, for meritorious services and devotion to the sick during the prevalence of cholera at Little Rock, Arkansas, to date from November 22, 1866.

To be *Brigadier-Generals* by brevet for faithful and meritorious services during the war, to date from March 13, 1865, Brevet Colonels and Surgeons Charles S. Tripler, Charles McDougall, and Joseph J. B. Wright; also Brevet Colonel and Surgeon William J. Sloan, for meritorious and distinguished services at several military posts in New York Harbor, where cholera prevailed, to date from September

28, 1866; Brevet Colonel and Surgeon Joseph B. Brown, for meritorious and distinguished services at Fort Columbus, New York Harbor, where cholera prevailed, to date from September 28, 1866; Brevet Colonel and Surgeon John J. Milhau, for meritorious and distinguished services at Hart's Island, New York Harbor, where cholera prevailed, to date from September 28, 1866.—*Medical Record*.

Municipal Munificence.—The municipality of Brussels have offered the very handsome sum of sixteen pence a day as a recompense for services rendered by the medical profession during the last epidemic of cholera. M. Vleminckx, a leading practitioner of the city above mentioned, spiritedly writes to the authorities that his brethren could have borne to have been simply thanked, but that they deny the right of any corporation or individual to offer men who have displayed skill, courage and endurance, the paltry remuneration in question.—*Ibid*.

The "Poor Man's Filter."—In the food department of the South Kensington Museum stands the "poor man's filter." It is an ordinary flower-pot, plugged (not tightly) at the bottom with sponge. A layer of coarsely powdered charcoal, about one inch thick, is placed in the bottom of the pot, then another layer of sand of the same thickness, then pebbles, coarse gravel, and stones are placed on the whole. This forms an admirable filter, and one within the reach of the poorest.—*Medical and Surgical Reporter*.

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, JANUARY 19th, 1867.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	39	40	79
Ave. mortality of corresponding weeks for ten years, 1856—1866	43.4	38.8	82.2
Average corrected to increased population	00	00	90.56
Death of persons above 90	0	0	0

NOTICE.—In order to continue the uniformity in the practice of commencing a new volume of the JOURNAL annually in the first week of February, twenty-seven numbers are required and will be given in the present volume, and No. 1 of Vol. Lxxvi. will be issued on the 7th of the ensuing month.

PAMPHLETS RECEIVED.—Treatment of Fracture of the Lower Jaw by Interdental Splints. By Thomas Brian Gunning, New York.

MARRIED.—In this city, 13th inst., Artemas I. Fenn, M.D., to Mrs. Frances L. Graves, both of Boston.

DIED.—At Chelsea, after a lingering illness contracted during the war, Dr. John C. Barrington, formerly Assistant Surgeon of the 28th Mass. Vols., and afterwards of the 2d Mass. Heavy Artillery.

DEATHS IN BOSTON for the week ending Saturday noon, Jan. 19th, 79. Males, 39—Females, 40. Accident, 3—apoplexy, 1—disease of the bowels, 1—congestion of the brain, 1—disease of the brain, 7—inflammation of the brain, 1—bronchitis, 1—cancer, 2—consumption, 8—convulsions, 1—croup, 4—debility, 1—diphtheria, 2—dropsy, 2—dropsy of the brain, 4—drowned, 1—erysipelas, 1—exposure, 1—scarlet fever, 4—spotted fever, 1—hemorrhage (from the ear), 1—infantile disease, 2—disease of the kidneys, 3—inflammation of the lungs, 7—marasmus, 2—old age, 4—peritonitis, 1—puerperal disease, 1—smallpox, 3—disease of the spine, 1—tabes mesenterica, 1—teething, 1—unknown, 5.

Under 5 years of age, 37—between 5 and 20 years, 7—between 20 and 40 years, 16—between 40 and 60 years, 8—above 60 years, 11. Born in the United States, 61—Ireland, 16—other places, 2.

THE
BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LXXV. THURSDAY, JANUARY 31, 1867.

No. 27.

SURGICAL CASES, FROM THE RECORDS OF THE CITY HOSPITAL,
BOSTON.

[Reported for the Boston Medical and Surgical Journal by DAVID W. CHEEVER, M.D.,
one of the Visiting Surgeons.]

Tenth Paper.—THREE CASES OF DISLOCATION AND FRACTURE OF
THE SPINE. TREPHINING THE SPINE, IN ONE CASE.

CASE I.—*Dislocation of the Fifth and Sixth Cervical Vertebrae.*—June 15th, 1866. Michael B., æt. 21. At 7½ o'clock last evening patient was swinging upon a chain across the back of a wagon, when he lost his balance, fell backwards, and struck upon his head and neck. He did not lose his consciousness, but was unable to move his body or extremities. Some officious friends applied a blister to his neck. He entered the Hospital at 10½, A.M. Pulse 60 and full. Respiration quiet, but wholly abdominal. Diaphragm contracting well. Head thrown back. Slight priapism. Paralysis of sensation and motion of entire person below the nipples anteriorly, and below the seventh cervical vertebra posteriorly. Slight sensibility just above elbows, increasing as you ascend. No reflex action. Body warm. Retention of urine and feces. Patient could rotate his head through an arc equal to one fourth of a circle, and could move it somewhat forwards and backwards, though nodding occasioned pain. He could also bend his neck laterally, but slightly.

The seventh cervical vertebra, and all below it, appeared to be uninjured. The fifth and sixth cervical, over which there was an effusion and swelling, seemed abnormally elastic on pressure. The vertebrae above could not be felt. No crepitus.

Patient was carefully put to bed, and his urine drawn. At half past one, P.M., his pulse was 48; at three, 44; at night, 56 to 64, and irregular. Speaks of tingling below elbows.

June 16th.—Pulse 64; respiration distressing and more frequent, averaging 36. No thoracic respiration; chest as still as a marble statue. Diaphragm working less forcibly. Amount of air inspired is small. Action of heart labored. Tympanites of abdomen. No

VOL. LXXV.—No. 27

facial paralysis. Mind perfectly conscious. Swallows and talks well. Entire paralysis of arms, legs, trunk, bladder, &c.

5, P.M.—Pulse more irregular, and feebler; respiration 32; expiration noisy. Eats gruel. Moves his head from side to side. Talks incoherently. Speaks slowly, with great effort to articulate; words lagging.

8, P.M.—Respirations 28; pulse 50; both irregular and interrupted. Speaks with extreme effort.

9½, P.M.—Respiration gradually became slower and more shallow, until he died—fifty hours after the accident. No autopsy allowed.

CASE II.—*Probable Dislocation, and perhaps Fracture, of the lower Cervical Vertebrae.*—Sept. 20th, 1866. Mr. N. B., a caulker, of middle age, while overseeing his men early in the morning, some frost having formed during the night, slipped while crossing from a ship to the wharf, and fell down between them. It being low water at the time, the distance fallen must have been considerable. He fell into the water and dock-mud; striking, as he fell, on the back of his neck, on a fender at the side of the vessel. His groans attracting attention after a short time, he was taken up, quite conscious, but paralyzed entirely below the neck. He was now conveyed in a carriage several miles to his home, and I saw him about 12 o'clock.

He was sitting propped up in a chair, with his legs raised upon a second chair, to prevent his sliding down upon the floor. His thorax was flexed upon the pelvis; his neck was bent forwards, and his arms hung helpless by his sides. He was quite conscious; protruded his tongue straight and easily; his pupils were normal; his pulse feeble and rather slow. He said he had no feeling below his neck.

His wet clothes were cut off, and he was carefully put to bed—his head propped on a pillow in the position he desired. Warmth was applied to the feet and to the surface of the body; stimulants were given; his urine drawn off. He was rolled on to his side, and the back examined. Tenderness and effusion were found over the posterior cervical region. It seemed as if the vertebrae just above the seventh cervical were depressed forwards. No mobility nor crepitus could be felt. Paralysis, both of sensation and motion, was total below the neck. The respiration abdominal. There was partial priapism. He was evidently in a state of shock.

6, P.M.—Strong reaction had come on. His pulse was full and slow; the body warm and moist; the mind perfectly clear and active. Paralysis was entire. A small amount of urine was drawn off. The walls of the thorax were perfectly motionless. The diaphragm was working forcibly. No symptoms of cerebral lesion.

Sept. 21st.—At 5, A.M., I was called to him in haste and found him sinking. His respiration was slow and imperfect; his skin livid; the pulse feebler and slower; the mind affected by venous blood; mucus had collected in the bronchi, and could not be expecto-

rated. His pulse and respiration grew slower and fainter until he died, about twenty-four hours after the receipt of the injury. No autopsy.

According to Mr. Alexander Shaw,* "It is a melancholy fact that, in general, when the spinal cord is destroyed in the upper dorsal and the cervical regions, the main question is, merely, how many days is the patient likely to survive the fatal injury? In such cases the principal cause of mortality is the greater or less interruption to the operation of breathing.

"The whole series of intercostal muscles, as well as the abdominal parietes, will be paralyzed. To explain how the process of respiration can be carried on in that defective condition, it has been thought sufficient to affirm, without discussion, that it is effected by the diaphragm exclusively. It is said that the phrenic nerve, which controls that muscle, emerging from the spinal canal above the fourth cervical vertebra, while it remains uninjured, will cause the diaphragm to contract; and when it relaxes, the weight and elasticity of the abdominal parietes will cause it to recede into the thorax, and expiration will take place.

"But between the fourth and fifth cervical vertebræ emerges the external or long thoracic nerve, the external respiratory nerve of Bell, which supplies the serratus magnus muscle. That muscle has a strong inspiratory power, when the shoulders are fixed. And as a certain tendency exists in the diaphragm, owing to its attachments to the ribs, when it contracts powerfully, to depress and draw together the lower margins of the thorax, the counteracting power of the serratus must exercise an important influence in making inspiration perfect.

"It may, therefore, be concluded that, in fractures of the vertebræ of the neck, if the spinal cord retains its function as low as the sixth, the diaphragm will have the coöperation of the serratus magnus muscle. And that assistance will be valuable for expiration as well as inspiration; for in proportion as the thorax is more elevated, it will descend with greater force by its elasticity, in expiration, and so expel the air from the lungs more effectually.

"Very frail, however, is the tenure by which a patient who has suffered fracture of the cervical vertebræ holds life. The causes which cut him off early are twofold:—

"1st. Owing to paralysis of the abdominal muscles, tympanites of the abdomen comes on and pushes up the diaphragm.

"2d. The mucus naturally secreted in the air-passages accumulates, owing to the inability of the patient to expel it by coughing. The blood becomes imperfectly oxygenized, and death is ushered in by coma."

CASE III.—*Fracture of the Lamina and Spines of the second and third Dorsal Vertebræ, and of the Spines of the fourth and fifth; total*

* Holmes's Surgery, vol. ii. p. 212.

Paralysis below the Nipples; Trephining of Spine, with Restoration of Motion and Sensation; subsequent Emphysema of Chest, and Death, apparently, from Pneumothorax.—Jan. 14th, 1867. A. B., æt. about 40, while at work just after the noon rest, fell from a considerable height and struck upon his back and occiput. He was taken up conscious, but paralyzed in the legs and trunk. He became gradually more unconscious and feebler.

When I saw him, at half past two, P.M., his pulse was quite feeble, and his respiration very small and entirely with the diaphragm. He could be easily roused to consciousness. There was no stertor. His pupils were contracted. There was partial priapism and retention of urine. The legs and trunk entirely helpless. The extremities warm. Bruising, and crepitation of broken bone were very evident between the scapulæ. He objected to having his head moved at all. He appeared to be suffering from shock, partial concussion of the brain, and pressure on the upper dorsal portion of the spinal cord. His pulse and respiration were failing, and it was evident that he must soon sink, unless relieved. He refused to swallow, but was stimulated by alcoholic enemata.

Having in my mind the miserable end of the cases just related, I had determined to trephine the spine, should another similar accident present itself. This patient had a perfectly evident fracture of the vertebral column in the upper dorsal region—a region more favorable for operation than the neck. If anything were to be done, it must be done immediately.

The patient was turned partially over upon his face, and an incision made over the fracture. The finger now entered a bruised and softened space, in which could be felt the broken ends of several spinous processes. On dissecting down upon and removing these, the laminae were found to be broken. Segments of the arches of four vertebrae were removed with the trephine, elevator and tooth-forceps. The cord was now freely exposed, and seemed intact in its membranes, except a small spot at the upper border of the wound, where an appearance, which might be a laceration, presented itself. There was free venous hæmorrhage, but it ceased spontaneously. The rough edges of the laminae were trimmed off with the gnawing forceps. The cord appeared to be free from pressure, both above and below the wound. No injury of the head was found. But emphysema began to appear on the right side and front of the thorax. The condition of the patient did not undergo much apparent change. The wound was left open. He was placed in a semi-supine position in bed, and stimulated, alternate hours, with alcoholic and beef-juice enemata.

Jan. 15th, 9, A.M.—Entirely conscious; protrudes tongue; swallows; talks. Pulse 108, considerably fuller. *Respiration 30, and thoracic*; every intercostal muscle seen to be contracting well in inspiration. Some dyspnoea. Emphysema moderate, under pectoralis

major of right side. Chest tympanitic. Respiration obscure. Priapism gone. Can feel slight touch with finger as low down as knee, but not lower. No hæmorrhage from spinal wound. Has been able to hold interviews with his wife and family.

From this time he began to fail. The pulse ran up to 160. The respiration became very rapid and distressing; the thoracic muscles moved with the diaphragm to the last. The breathing was short and catching, as if the lung were oppressed, but not paralyzed. He died about twenty-four hours after receiving the injury. No autopsy could be obtained; but there seems reason to conclude that he died of fractured or dislocated ribs, wound of the costal and pulmonary pleuræ, and pneumothorax, since his respiration, pulse, and mode of death differed totally from the other cases. They died with a pulse of 40, and a respiration growing slower and slower. He died with a pulse of 160, and a spasmodic and exceedingly rapid breathing.

Trephining the spine and raising the depressed laminæ restored the inspiratory power of the intercostal muscles and relieved the diaphragm; it restored, also, the trunk and thighs to sensibility.

If no lesions had existed in the chest, there would seem to be reason to have hoped for a favorable result. Immediate death from pressure on the nervous centre was averted, at any rate, and life prolonged. Reasons enough, surely, to follow up the operation of trephining the spine in an uncomplicated case.

Why should we not accept the only alternative from sure and speedy death which can be offered us? And especially so since Dr. Brown-Séquard, as we understand him, gives a certain percentage of recoveries, and considers the operation less dangerous than trephining the skull.

CEREUS GRANDIFLORA, CACTUS GRANDIFLORA (LINN.), NIGHT-BLOOMING CEREUS, SWEET-SCENTED CACTUS, &c.

By A. F. PATTEE, M.D., Boston.

[Communicated for the Boston Medical and Surgical Journal.]

NATURAL ORDER—Cactaceæ.

Generic Characters—Stem creeping and rooting five to eight angles; flowers terminal and lateral, very large, showy; sepals brown on the outside, yellow within; petals white, spreading, shorter than the sepals.

Specific Distinction—Flowers bloom by night, commencing at twilight, withering as night advances, close and die before the dawn of day. Stem branching, armed with numerous clusters of spines. The stem is mucilaginous.

Habitat—Mexico and West Indies, and cultivated in Spain, Italy and some tropical countries, and hot-houses of the United States.

VOL. LXXV.—No. 27*

History.—The plant was used by the natives of Mexico previous to the conquest, for the cure of numerous diseases, such as intermittent fever, irritation of the urinary organs, and other maladies incident to the country. It was introduced into Germany as a therapeutic agent by Dr. Scheele, and lately brought to notice by Dr. Rubini.

Physiological Effects.—This cactus is sedative to the nervous and circulatory systems, and acts on the kidneys. Given in the regular medicinal doses, repeated at the proper intervals, and gradually increased if necessary, it is found to diminish the frequency of the pulse, and increase the secretion from the urinary organs largely; it is of great service in the treatment of dropsical diseases. In large doses it is irritant to the stomach, and has a peculiar effect upon the brain, producing mental confusion, hallucination and slight delirium.

REMEDIAL EMPLOYMENT—Diseases of the Heart.—The cactus was recommended as a specific in diseases of the heart, and it is in this disease that it has been used almost exclusively. That it has a very decided action on the heart we are well satisfied. It relieves irritation of this organ, whether dependent on local causes or due to reflex action from disorders of the stomach, lungs, or other viscera. The following case will illustrate its use in a complicated functional heart affection.

Mr. D. W., æt. 60; married; father of several children; health always good; an inveterate smoker. In January, 1866, he was troubled with palpitation, with irregularity of the heart's action on the slightest exertion, and great dyspnœa on lying down. His physician pronounced the case to be one of structural disease, and told the patient he was liable to die at any time. The disease continued to progress, the lower limbs becoming anasarcaous; he was examined by a number of prominent physicians, who concurred with the attending physician with regard to the diagnosis and prognosis. We advised him to try the tincture of cactus in five-drop doses three times a day in water, and discontinue all other medicine. He commenced taking the medicine Oct. 1st, 1866, and with the most happy effect; the dyspnœa gradually disappeared, the limbs gave up their water, and at the present time the patient is able to rest all night in the horizontal position, and the action of the heart has become regular. I have used this remedy in many other well-marked cases, with much benefit to the patient.

This remedy is contra-indicated in diseases of an inflammatory nature with acute symptoms. In cardiac rheumatism, combined with bi-carbonate of potash, I have found the cactus worthy of confidence. In the condition of the heart which is generally associated with anæmia, and in which the tissue of the organ is enfeebled by defective nutrition, the cactus is indicated, in combination with chalybeates, the mineral acids and other tonics, to improve the character of the blood. An important incidental advantage in these cases is, frequently, its

effect in removing the dropsical effusion, whether in the pericardium, the other serous cavities, or the general areolar tissue.

Functional Palpitation of the Heart.—Perhaps in no affection does cactus act more favorably than in palpitation, either from plethora, anæmia, or merely nervous disorder; but the remedy is applicable only to the cases in which the affection has a certain degree of permanency, and not at all to those occasional and fugitive attacks which occur under passing excitements.

Administration.—The tincture is preferred, as it is supposed to keep better; and, in order to ensure uniformity, it should be *saturated*. Take of the fresh stem and flowers of the cactus four ounces, ninety-five per cent. alcohol one pint; macerate for one month and filter. The dose of this tincture is from one to five drops three times a day; if no effect is produced upon the disease in the course of three or four days, the dose should be gradually increased until unequivocal symptoms of its operation are manifested.

We believe, in conclusion, that if the profession will test the virtues of the cactus, there will be few who would be willing to dispense with its use.

GUN-SHOT WOUNDS OF THE PELVIC VISCERA.

WÜRZBURG, January 2d, 1867.

MESSRS. EDITORS,—While acting as voluntary assistant surgeon in one of the temporary military hospitals in this city, during the months of August, September and October of the past year, I had occasion to observe several hundred cases of more or less interesting gun-shot wounds, among which were three injuries of the pelvic viscera, which, on account of the dangerous and rather rare nature of the wounds, appear to me worthy of description. My attention was perhaps attracted the more to them since, during a service of about six months in one of our large military hospitals during the late rebellion, I did not happen to see a single case of perforating gun-shot wound of the pelvis; and here, in a small hospital of barely 150 beds, I met with three instances at the same time.

CASE I.—Johann Graef, bugler of the 8th battalion of rifles, Bavarian Army, 27 years of age, was wounded by a bullet from a Prussian needle-gun, July 26th, 1866, at the battle of Rossbrunn, a village distant some ten English miles from Würzburg. The ball had entered the right nates at the upper and inner portion of the greater sacro-ischiatic foramen, doubtless pierced or torn away one side of the rectum, passed through the base of the bladder and emerged on the right side of the scrotum; for, on his arrival at the hospital on the night of July 31st, we found the urine running freely from the anterior wound, the scrotum enormously distended and gangrenous from the presence of the urine in the cellular tissue, and the fæces

protruding from the posterior opening. The sufferings of the patient were so severe that he begged the attendants to shoot him. There was no discharge of fæces from the anterior wound, which fact leads me to believe that only the right side of the rectum was injured; for if the ball had pierced the centre of the intestines, the fæces would have passed equally through both openings.

An attempt had been made on the field to catheterize the man, but in vain, the catheter absolutely refusing to enter the bladder. Cold compresses and one quarter of a grain of morphine were ordered; the dose of morphine not allaying the pain, it was thrice repeated, after which the patient passed a tolerably quiet night. The next day the pain was again so intense that, after several doses of morphine in powder and by means of subcutaneous injection had been administered without success, recourse was had to chloroform, by which the patient was kept in a condition of semi-consciousness. To remove the constipation enemata were tried, but without success, the injection flowing out at the posterior opening. On Aug. 2d he was placed in a warm bath, in which he expressed himself much relieved, remaining in it over four hours. The baths were repeated every day as the only means of relieving his sufferings, but their result surpassed all expectation. They promoted the discharge of the gangrenous parts, which were thrown off August 9th, leaving the left testicle intact, but only partially covered with sound skin. At the right side of the penis, immediately below the pubic arch, the urine could be seen trickling through a small opening, which admitted the passage of a probe into the bladder. Denuded bone was not to be felt, either through the anterior or posterior opening. When not in the warm bath, the wounds were treated with cold-water compresses, and the adjoining parts covered with simple cerate, to prevent excoriation by the urine. He now began to show some appetite, and was allowed fish, eggs, and a glass of wine daily. He could sleep after only one dose of one quarter of a grain of morphine now, and there appeared some hope of his recovery. Two small abscesses which formed on the hand and thigh were opened, and healed readily. An attack of pain, swelling and heat in the right inguinal region was removed by leeches and warm-water compresses, and the condition of the patient improved from day to day. During one of the baths he had a voluntary operation of the bowels per anum, and they were henceforth kept regular by means of enemata or laxatives.

About Aug. 20th the left testicle was nearly covered by skin, the anterior opening had become exceedingly small, and at times the urine could be passed through the urethra. Micturition being painful and the urine appearing highly ammoniacal, injections of warm oil into the bladder were made with good results. The catheter could be passed without difficulty. He was now allowed full diet and a tumbler of wine and one of beer per day.

Aug. 26th, he complained of pain in the right lumbar region, ac-

accompanied by fever. We apprehended an acute nephritis, but were glad to see all symptoms disappear after applying hot-water compresses for two days and enforcing low diet. Towards the end of August the warm half-baths, which had been suspended for a few days, as they appeared to debilitate the patient somewhat, were replaced by a daily warm sitz-bath, which had the same cleansing and salutary, without the debilitating effects. The temperature of the baths at first was between 95° and 100° F., and was gradually reduced to about 80°. These sitz-baths were continued, with occasional intervals of a few days, until the patient left the hospital. The posterior wound was now healed, but, as the result proved, only temporarily.

During the first week of September he began to walk about the ward, and finally felt well enough to accept the invitation of the monks in the adjoining monastery to a glass of beer. The wound was occasionally touched with the stick of nitrate of silver, and was entirely closed about the middle of September, the urine passing freely through the urethra and the bowels being regular; the remaining testicle was perfectly covered by sound skin.

Sept. 22d, the posterior wound again opened, discharging feces and pus, but after touching with nitrate of silver it soon closed again, and, October 1st, appeared healed.

The appetite of the patient was very good, so good indeed that, notwithstanding orders to the contrary, he contrived to smuggle in eatables, and finally was seized, during the night of October 10th, with a violent fit of vomiting, by which both wounds were opened again, the posterior as well as the anterior one discharging urine. A collection of pus was found in the canal of the posterior wound, which was evacuated by means of an incision. Injections of a solution of nitrate of silver (gr. iv. to ʒ i.) were made into the posterior wound twice daily, and resulted in total closure of the canal by the 1st of November; the anterior opening had been touched with the solid caustic and had closed within a few days after the accident.

To make sure of a permanent cure, the patient was kept in the hospital till the first week in December, taking an occasional sitz bath; as the wound remained closed, and the man was able to walk about the city and felt as well as before his wound, he was discharged. He has since written, and reports himself as continuing well.

In this case the warm baths undoubtedly were chiefly beneficial in relieving the pain and cleansing the wounds, whereas the cold-water compresses, first stimulating by means of the cold and then promoting the multiplication of cells and consequently granulation by means of the moist warmth, hastened the healing of the injured parts.

CASE II.—Joseph Handwerger, private, 13th regiment, Bavarian Infantry, 25 years of age, was wounded by a Prussian bullet at Uettingen, a village a short distance from Rossbrunn, on July 26th. The ball entered in the region of the left greater sacro-ischiatic foramen,

passed transversely through the pelvis, probably injuring the rectum in its middle portion, and emerged on the right side at a spot corresponding to the point of entrance, without touching the bone. When brought to the hospital, July 31st, large quantities of frothy fæces passed freely from both wounds, which therefore required very frequent dressing. The patient was obliged to lie on his belly, which position he occupied almost exclusively during the first three weeks after entrance. The wounds were treated with cold-water compresses, an easily digestible diet was ordered, and the bowels were kept rather loose by means of laxatives. The general condition of the patient was good, and there were no signs of peritonitis or enteritis. August 8th, the patient had a violent chill, which was treated with aconite, two grains of the powdered extract being given every four hours; the rigor was repeated on the 11th, and three-grain powders of aconite were administered. Whether these had any effect I do not pretend to say; at all events the patient had no return of the chill, and improved visibly from day to day, the discharge of fæces ceasing sometimes from one wound and sometimes from the other for a day or two; both wounds had a fresh, florid appearance, with slightly callous edges.

Aug. 20th, he was placed in a warm bath, which relieved him very much and appeared to promote the activity of the bowels; it was accordingly continued, with appropriate intermissions of a day or two, until his discharge. An œdema of the lower extremities, which occurred about this time, was removed by compression with a roller bandage.

Sept. 3d, there was a natural and copious evacuation of the bowels, no fæces having been discharged from the wounds for several days. On the 6th, however, in consequence of an attempt to walk, in the absence of the surgeon, a profuse fæcal discharge from both wounds again took place, with violent febrile symptoms, which were speedily removed by a warm bath. Perfect quiet being enjoined, the wounds again resumed their healthy appearance, the left one especially healing so rapidly, that by September 12th it was entirely closed, and remained so till after his dismissal. From this time forth no more fæces were discharged from the right wound, the bowels partly operating voluntarily and partly being kept regular by means of laxatives. But as the pus from the wound was mixed with bubbles of air, there must still have been a communication with the intestine. As the wound appeared rather indolent and indisposed to heal, it was first treated with hot compresses of chamomile tea, which materially improved its appearance, and then injections of nitrate of silver (gr. iv. to $\frac{3}{4}$ i.) were made twice a day; these, although acting slowly, still fulfilled their object and brought about the almost entire closure of the wound by the 5th of November. Soon after, the patient began to walk about, and, calling at the hospital during the last week of November, I was informed by the surgeon

in charge that he had been discharged perfectly well a few days before.

I have heard, to my regret, within a day or two, that after the wounds had remained closed for six weeks, they opened again about a fortnight ago—probably in consequence of imprudence of some kind—and are now both discharging faecal matter.

CASE III.—Jacob Dachsbacher, private, 5th regiment Bavarian Infantry, 27 years of age, was also wounded at Uettingen, July 26th, the bullet taking almost the same course as in Case II., with the exception that it appeared to have entered on the right side and to have touched the rectum a little higher up in the concavity of the sacrum than in the previous case.

On his entrance, July 31st, the wounds discharged only pus; a few days after, however, the pus was mingled with faeces, which passed from both wounds. Cold-water compresses and light diet were ordered; enemata given through a long rubber tube were regularly followed by easy stools. August 20th, warm sitz baths were commenced and continued daily for three weeks, with the very best results, the right or entrance wound being almost healed and the faeces being discharged exclusively per anum. About the middle of September, both wounds were perfectly closed. The patient's right leg, however, was almost powerless, which fact causes me to believe that the ischiatic nerve has been injured or bruised near its exit from the great sacro-ischiatic foramen. On account of this latter trouble, the patient was retained in the hospital, and various stimulating applications were made without effect. About the middle of October both wounds again broke open, and showed the existence of canals of some depth, the left one especially allowing the introduction of a common silver probe up to the eye. No faeces or air were discharged, however. The left wound was closed by means of injections of nitrate of silver; a collection of pus appearing near the right wound, it was evacuated by an incision, and a seton was passed through the two openings and left *in situ* during a fortnight. This proceeding brought about the closure of the wound, and apparently, also, acted as a stimulant on the nerve; for, on visiting the patient a few days ago, I found both wounds apparently firmly closed, and the man able to move across the room with the help of a cane; whereas, before, he had hardly been able to lift the leg.

PAUL MUNDE, M.D.

THE Imperial Society of Bordeaux offers a gold medal of the value of 500 francs for an exhaustive memoir on the subject of embolism, especially in relation to the sudden deaths of puerperal women. The proportion of sudden deaths in different diseases, and especially in the puerperal state due to emboli, are to be duly set forth. The essays, written in French or English, are to be sent in by August 31, 1867.—*New York Medical Journal*.

CLINIC OF BERKSHIRE MEDICAL COLLEGE.

(Continued from page 504.)

Strumous Conjunctivitis.—Margaret D., æt. 10. Severe inflammation of conjunctiva; has also granular lids; ulcers on the cornea; is sometimes costive. *Treatment*.—Give first an alterative. *R.* Hyd. cum creta, gr. xv.; sodæ bicarb., ℥ iss. *M.* Divide in chart. No. vii. One to be taken every night. *R.* Acid. tannici, ℥ i.; glycerin., ℥ i. *M.* Apply locally morning and night.

Came again to clinic one week afterwards, very much improved; ulcers healing finely; not so much intolerance to light. *Treatment*.—Change from alteratives to tonics, as the great indication is to improve the general system. *R.* Potass. iodid., ℥ i.; ferri ammonio-citrat., ℥ i.; syrup. sennæ, f ℥ i.; aq. puræ, f ℥ iv. *M.* A teaspoonful to be taken three times a day. Continue the application of gly-cero-tannin.

Came again three weeks afterwards, with great improvement, both local and general. Continue treatment.

Carcinoma Uteri.—H. S., æt. 45; married. Has had nine children. Has miscarried three times, the fœtuses being three or four months old; cause unknown. Has had intermittent cough for seventeen years, with frequent hæmoptysis; there is marked anæmia; has had menorrhagia almost constantly for two years. The patient was taken to the ante-room and examined by Prof. Storer. The uterus was found considerably hypertrophied, with little displacement; the os patulous; posterior lip considerably elongated—all resulting, probably, from cancer of the organ. She is subject to various forms of constitutional disturbance, such as severe irritation about the bladder, palpitation, probably on account of the loss of blood, and cough, occurring on account of the sympathy between the uterus and lungs. *Treatment*.—Live well, and pursue a tonic course of treatment. *R.* Ferri sulphat., ℥ i.; quiniæ sulph., ℥ i.; aquæ piperitæ, f ℥ iv. *M.* A teaspoonful to be taken three times a day.

Diarrhœa.—John L., æt. 17 months. Has been in poor health about three weeks; has always been somewhat constipated, yet seemed well and strong. Still nursing, but not regularly. Attack commenced with considerable diarrhœa and some fever, which has continued until now. At first the discharges were slimy, sometimes greenish, but now are tinged with blood; there has been some tenderness of the abdomen and bloating. Is cutting teeth; has six through, and the bicuspid in the superior maxilla are making their appearance. Prof. Palmer remarked that we have here diarrhœa accompanied by congestion of the small and large intestines; that this is caused partly by the irregular nursing and the introduction of a larger amount of food into the stomach than it can digest well and its passage into the intestines, which causes irritation there—and partly by teething. *Indication*.—To change the secretions and abate

the inflammation. *R.* Mass. hydrargyri, gr. iij.; magnesiæ calcinat., gr. x. *M.* Ft. in chart. No. v. One to be taken every four hours until three are taken. If they act as a laxative it will suffice, if not give a little castor oil. *R.* Doveri pulv., gr. x. Divide in chart. No. xii. Give one after the third mercurial, and then every four hours. *R.* Sodæ bicarb., ʒ ij. Put one half in a teaspoonful of water, and give a teaspoonful *pro re nata*.

Ulceration of Os Uteri.—Mrs. M., æt. 31 years. Married. Has four children, the youngest about four years of age; has generally been in good health until about five months since, when she began to have pain in the head and stomach; also in the lumbar region, with leucorrhœa. Has had one abortion—about one year since—brought on, as she says, by the aid of instruments. The patient was taken to the ante-room and examined. The uterus was found much enlarged; os ulcerated and patulous. Has profuse hæmorrhage; system much debilitated in consequence of this and shock to nervous system. *Treatment.*—*R.* Butyr. cacao, ʒ i.; acid. tannici, gr. v. *M.* Ft. into four balls. Use one every night. *R.* Ferri sulph., ʒ i.; magnesiæ sulph., ʒ i.; aquæ puræ, f ʒ iv.; acid. sulphuric., q. s. *M.* Take a teaspoonful twice daily.

Patient returned one week afterwards; says she is much better; has much less gastric irritation and less leucorrhœa. *Treatment.*—An application of argenti nitras made to the os. *R.* Ferri et quiniæ citras, ʒ i. *Ft.* in pil. No. xvij. Take one three times a day.

Ulceration of Os Uteri.—A. C., æt. 45. Was treated at College clinic, during session of 1865, for Graves's disease. At present, there is no enlargement of the thyroid gland, and the disturbance of the heart has abated. Presents a marked anæmic condition. Has suffered constantly for two years with leucorrhœa, and during the past year has from uterine hæmorrhage. Now, much debilitated, owing, no doubt, to loss of blood. The patient was taken to the ante-room and examined. Uterus found to be enlarged, both cervix and body; os patulous. The cervix is badly abraded; might be called ulcerated. There are large granulations about the os, and probably the hæmorrhage is to a great extent from these granulations. *Treatment.*—*R.* Tinct. ferri chloridi, f ʒ ij. Take thirty drops three times a day, well diluted in water. Apply tincture of iron to the ulcerated surface. Patient returned to clinic four weeks afterwards. Has had no hæmorrhage for the past two weeks, but has had very disagreeable sensations about the epigastrium, with considerable headache and dizziness. Does not appear as anæmic as when last here. Prof. Palmer remarked that these unpleasant sensations are a natural consequence resulting from checking the hæmorrhage which has so long been a drain on the system. *Treatment.*—Another application of tincture of iodine to the cervix uteri.

Bibliographical Notices.

Surgical Clinic of La Charité. Lessons upon the Diagnosis and Treatment of Surgical Diseases, delivered in the month of August, 1865, by Prof. VELPEAU, Membre de l'Institut et de l'Académie de Médecine, collected and edited by A. Regnard, Interne des Hôpitaux. Reviewed by the Professor. Translated by W. C. B. FIFIELD, M.D. Boston: James Campbell.

THIS modest little book contains a statistical *résumé* by the author of his surgical experience in the hospital wards under his care during the previous year. We learn that he is accustomed to present a similar summary to his followers every year. The number of patients on which his statements are based is 1155—797 males and 358 females. He treats his subject under the successive headings, Generalities, Fractures, Affections of the Joints, Inflammations and Abscesses, Affections of the Lymphatic System, Burns and Contusions, Affections of the Genito-Urinary Organs, Affections of the Aural Region, Affections of the Eyes, Statistics of Operations.

This little book, of one hundred and three pages, is full of the condensed wisdom and experience of the great surgeon from whose lips it came. As the translator well says in his preface, it contains "the essence of the long life and vast experience of Velpeau—perhaps the last words he may speak to us." We have a special liking for such works, which give us the most authoritative opinions of the elders of the medical profession, who have reached the time when the judgment is least biased by the rivalries and personal influences which are so apt to mislead younger minds. The one before us shows that the author has a large respect for the agency of the natural forces in surgery, and contains matter of much interest in the light of medical jurisprudence. It is of vastly more value than many more ambitious and bulky works. It is neatly printed on tinted paper.

A Treatise on the Principles and Practice of Medicine; designed for the use of Practitioners and Students of Medicine. By AUSTIN FLINT, M.D., Professor of the Principles and Practice of Medicine in Bellevue Hospital Medical College, and in the Long Island College Hospital, &c. &c. Second Edition, Revised and Enlarged. Philadelphia: Henry C. Lea.

FOUR months after the publication of this work, as we learn from the preface to the present edition, a second was called for. If we knew the size of the first edition, we could judge better of the amount of public approval which this fact indicates. The second edition contains considerable new matter, relating to Pertussis, General Cerebral Paralysis and Polyuria, subjects which were not treated in the first. In addition, the portion treating of Pyæmia has been re-written, Epidemic Cholera has been treated at greater length, and considerable other new matter has been introduced. The present edition confirms our favorable impression of the first. It is handsomely printed.

An Index of Diseases and their Treatment. By THOMAS HAWKES TANNER, M.D., F.L.S., Member of the Royal College of Physicians, &c. Philadelphia: Lindsay & Blakiston. 1867.

THE author's object in preparing this volume was, as he states, to facilitate the work of the busy practitioner, by enabling him in a few moments to run over a condensed synopsis of the principal features of any disease he may be called upon to deal with, together with a summary of the various methods and agents which have been found of the most practical value in their treatment. In fact, it is a sort of medical dictionary. The last hundred pages consist of an Appendix of Formulæ, numbered in accordance with the references distributed throughout the book, concluding with two pretty full chapters on Climates for Invalids, with brief notices of a number of the noted places resorted to by this unfortunate class—and Mineral Waters, with a particular account of the principal springs, the waters of which are in repute as curative agents. The subjects are arranged in alphabetical order, and the work is well calculated to answer the design of the author.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, JANUARY 31, 1867.

CHEMISTS' CERTIFICATES.

In calling the attention of our readers, as we have done from time to time, to the dangerous character of many of the articles advertised in newspapers for the cure of diseases, and the reprehensible conduct of the public press in connection with such fraudulent practices, we have hitherto neglected to notice an important element employed in some cases by the manufacturers and agents engaged in this business. Sensible of the distrust with which their productions are regarded by the educated classes of society, they seek to remove all such fears by publishing, with the testimonials of their efficacy, certificates, from parties supposed to be competent and trustworthy, of their harmlessness and purity; and, strange to say, they are too often able to make use of this additional means of deceiving the public.

So little is known of chemistry by the world at large, and so wonderful have been many of its practical results in the arts and in cases of medico-legal celebrity, that its powers are apt to be over-estimated, and the unlimited confidence placed in the science is blindly transferred to all who practise it as an art or business, and call themselves chemists. The possibilities of chemistry, however, even in the matter of simple analysis, are limited, as the merest dabbler in it knows, even if the public does not; and yet if we were to estimate them by the notices emanating from laboratories and published in the newspapers and public places in connection with the vaunted action of all sorts of nostrums, we should be obliged to attribute to them more transcendent powers than the most enthusiastic modern synthesis dreams of. How far in advance of the teachings of the most renown-

ed chemists are the results obtained by those who publish their discoveries under the form of certificates! Orfila, Christison, Taylor, Fresenius, and others acknowledge their inability to detect by any chemical agency the presence of some of the most deadly poisons known, and yet we have before us the published statement of an "analytical chemist," that the chemical analysis of a certain advertised preparation shows that "it is free from opium or any other deleterious substance." But they must go further than this. Not satisfied with the attainment of a knowledge that enables them to determine the absence of all known injurious matter, they can recognize certain positive qualities in this class of substances submitted to them, which chemistry has hitherto not even attempted to embrace in its possibilities. They not only discover their physiological action upon the system, but even the particular pathological condition of the economy which they were created to remedy. We had supposed that these matters were worked out by the patient and united labors of the physiologist, therapist and pathologist, and that the test tube was more limited in its scope; but we find another chemist, in the published report of his analysis of an eye lotion, saying that "its effects are due to the cooling and soothing action of the oils on delicate or inflamed surfaces connected with the eyes"; and yet another speaks thus:—"Its principal effects upon the system are mildly stimulating, diuretic, sudorific and tonic. It will prove beneficial in affections of the kidneys, and chronic diseases, with general debility of the constitution."

Now not one of these persons is a physician, or is competent to speak of the physiological action of drugs; and, moreover, they know enough of chemistry to know that, as chemists, they have nothing to do with such matters, and yet instead of making the proper use of their art to instruct the public as to the true character of many of the substances employed as remedies and lotions, they lend the influence of their names, directly or indirectly, to this system of traffic. One has only to look at the preparations offered for sale in the cases of our fancy-goods apothecaries, or read the advertisements in the newspapers, to convince himself of the dangerous nature of many of them. Arsenical lotion for the skin, antimony for the eyelashes, and belladonna for the eyes, would at once attract the attention of the physician, but who knows the composition of the hundred other cosmetics sold under poetical names—the Lait de Concombre for freckles, the Oriental Rusma to remove the hair, the Sympathetic Blush, the Eau de Tuilleries, the Blanc de Perle, the Bleu pour Veines, the coral lip salve, and so on, which may contain substances equally deleterious. The disclosures of a lady's maid recently published concerning the mysteries of the toilet among English ladies of rank, will show the uses to which some of these articles are put.

"We must be able to paint in pastel, not indeed *after* nature, but *upon* her. To beautify our mistresses we must redden the cheeks, put antimony upon the eyelids, pastel upon the brows, introduce belladonna into the eyes in order to enlarge the pupils, paint blue veins upon the temples, and use ninon paint and pearl white upon the rest of the skin. We must change the hair to a reddish-brown by means of a corroding material, or of 'palma vecchio,' which is now used in preference for that purpose; and we must be possessed of great skill

in applying all these ingredients, as their use is universal with the old as well as with the young."

It is no defence for the chemist, in this and other instances, which might be mentioned, where certificates are given for such or equally injudicious purposes, to urge that he is not accountable for the use which is subsequently made of them. Such a plea of irresponsibility will not be accepted by those who respect chemistry and who fully appreciate the character of such pseudo-scientific labors, and of the parties who use them for such unworthy purposes.

Massachusetts General Hospital.—The following gentlemen, students of medicine, have been appointed House-pupils at the Hospital for the ensuing year. In the Medical Department—Herbert Pratt, William James. In the Surgical Department—Thomas Waterman, Jr., Henry H. A. Beach, Rufus P. Lincoln, Josiah L. Hall.

American Medical Association.—The Transactions of the American Medical Association, Vol. XVII., are published and ready for delivery. Vols. V., VII., VIII., IX., if taken collectively, \$5 for the set; if singly, \$2 apiece. Vols. X., XI., XII., XIII. and XIV., at \$2 apiece. Vol. XV. at \$3; Vols. XVI. and XVII. at \$5. Any gentlemen residing in Boston or vicinity can be supplied at the above rates by sending their orders, before the middle of February, to Dr. J. N. Borland, No. 69 Mt. Vernon Street.

The Source of Muscular Power.—Some very important researches upon this subject have been recently published by Drs. Fick and Wislicenus, Professors at the University of Zurich, and also by Dr. Frankland in London. An account of these experiments was given in a lecture delivered at the Royal Institution by the latter chemist during the last session.

It is probable that these investigations will very materially affect the present condition of physiological science, tending, as they do, to entirely change the idea hitherto entertained respecting the relation of food to the requirements of the animal body.

Twenty years ago, physiologists would have attributed the source of muscular power to something peculiar developed by living animals, and termed *vital force*. The progress of scientific discovery, however, rapidly dissipated the very crude notions which then existed regarding this mysterious agency. We now know that an animal, however high its organization may be, can no more *generate* an amount of force capable of moving a grain of sand than a stone can fall upwards, or a locomotive drive a train without fuel. All that such an animal can do is to liberate that store of force, or *potential energy*, which is locked up in its food. It is the *chemical change* which food suffers in the body of the animal that liberates the previously pent-up forces of that food, which now make their appearance in the form of *actual energy*—as heat and mechanical motion. From food, and food alone, comes the *matter* of which the animal body is built up; and from food alone

come all the different kinds of physical force which an animal is capable of manifesting.

The two chief forms of force thus manifested are *heat* and muscular motion, or mechanical work. These have been almost universally traced to two distinct sources—the *heat* to the oxidation of the *food*, and the mechanical work to the oxidation of the *muscles*. This doctrine, first promulgated by Liebig, has been within late years adopted by most physiologists, and has been taught in all the text-books treating of the subject. The proximate constituents of food have been frequently divided into two groups—carbonaceous or non-nitrogenous, such as fat, starch, sugar; and the nitrogenous, such as fibrin, albumen, and casein—the former class being regarded as comprising simple *heat givers*, that is to say, substances that furnish material for oxidation in the process of respiration, and thus maintain the temperature of the body; the nitrogenous constituents being the *flesh formers*, or substances building up the muscles of the body, through which motive force is exerted. The exercise of a muscle being accompanied by a proportionate destruction or oxidation of its tissue, it follows that the plastic or flesh-forming constituents of food should bear a relation to the amount of muscular work performed. This theory, viz., that mechanical work, i. e., muscular exertion, is dependent on the destruction of muscular tissue, has been supported by Ranke, Playfair, Draper, and others; and, as we have already stated, it has been generally taught up to the present time. Nevertheless, it has not escaped challenge. Immediately after its promulgation, Dr. J. R. Mayer wrote, "A muscle is only an apparatus by means of which the transformation of force is effected, *but it is not the material by the chemical change of which the mechanical work is produced.*" This assertion he supported by several cogent arguments. Other physiologists also expressed similar opinions. Messrs. Lawes and Gilbert advocated a like view, basing their opinions on their own elaborate and carefully executed experiments on the feeding of cattle. The experiments of Messrs. Fick and Wislicenus and of Dr. Frankland, to which we have already referred, however, furnish results which are entirely subversive to the doctrine which has hitherto prevailed, and are almost conclusive in favor of the view expressed by Mayer. Messrs. Fick and Wislicenus, during the autumn of last year, undertook the ascent of the Faulhorn, one of the peaks of the Swiss Alps, near the Lake of Brienze, in the Bernese Oberland. This ascent represented a measurable amount of mechanical work, i. e., the raising their own weights from the base to the summit. For some hours before commencing, and during the experiment, they consumed no nitrogenous food whatever. As it has been well ascertained that all the nitrogen passes out of the body in the state of urea, they were enabled, by collecting the urine that passed, to ascertain accurately the quantity of nitrogen excreted, and consequently the amount of muscle oxidized during the journey. It only remained to determine whether the amount of force they exerted during the ascent was greater than could possibly be generated by the quantity of muscle oxidized during the same time. If it was, then it would necessarily follow that the power of the muscles was not derived exclusively from the oxidation of their own substance.

The calorimetrical determination of the actual energy evolved by

the combustion of muscle and of urea in oxygen have been made by Dr. Frankland, and the results show that the amount of muscle destroyed by the former gentlemen during their ascent would not account for one half of the force required to lift them to the summit of the mountain. Taking the average of the two experiments, and making several necessary allowances, Dr. Frankland calculates that scarcely one fifth of the energy required for the work could be obtained from the amount of muscle consumed.

Examining a number of previous experiments of a like kind, Dr. Frankland finds them all confirmatory of the same thing. Thus, he gives a summary of three sets of experiments made by Dr. E. Smith, by the Rev. Dr. Haughton, and by Playfair, in which in each case the force expended is in excess of that derivable from the muscle oxidized.

The following are the conclusions deduced by Dr. Frankland from his experiments :—

"1. The muscle is a machine for the conversion of potential energy into mechanical force.

"2. The mechanical force of the muscles is derived chiefly, if not entirely, from the oxidation of matters contained in the blood, and not from oxidation of the muscles themselves.

"3. In man, the chief materials used for the production of muscular power are non-nitrogenous; but nitrogenous matters can also be employed for the same purpose, and hence the greatly increased evolution of nitrogen under the influence of a flesh diet, even with no greater muscular exertion.

"4. Like every other part of the body, the muscles are constantly being renewed; but this renewal is not perceptibly more rapid during great muscular activity than during comparative quiescence.

"5. After the supply of sufficient albuminized matters in the food of man to provide for necessary renewal of the tissues, the best materials for the production, both of internal and external work, are non-nitrogenous matters, such as oil, fat, sugar, starch, gum, &c.

"6. The non-nitrogenous matters of food which find their way into the blood, yield up all their potential energy as actual energy; the nitrogenous matters, on the other hand, leave the body with a portion (one seventh) of their potential energy unexpended.

"7. The transformation of potential energy into muscular power is necessarily accomplished by the production of heat within the body, even when the muscular power is exerted externally. This is, doubtless, the chief and probably the only source of animal heat.—*Druggists' Circular and Chemical Gazette*.

Poisoned Bread at Winona, Ill.—It will be remembered that in July last, at a hotel in Winona, Illinois, a large number of persons were poisoned by eating warm biscuit at breakfast. The case attracted much attention, from the fact, that a few days before, some forty persons were in a similar manner poisoned at a hotel in Indianapolis; and from the circumstance, that self-raising flour was charged with having produced the poisoning at Winona. The public had not forgotten the bread-poisoning on a large scale in the State of New York, where the metallic lead used to bind the burr-blocks composing the mill-stones had been abraded and mixed with the flour in grinding. The investi-

gation of the Indianapolis case by Professor Wormley, of Ohio, revealed in the sour milk employed, with salæratum, to make the bread light, five and a half grains of tartar emetic and a trace of arsenic, in a single pint. A similar case at Atlanta, Georgia, in which a whole family was poisoned, was traced to arsenic introduced by a servant.

The Winona case was taken up by the physicians and druggists of the place, and prosecuted till they and the victims generally became satisfied that the self-raising flour had nothing to do with the poisoning. The investigation was renewed by Professor Horsford, of Cambridge, Mass., and the results at which he arrived are embodied in the following statement:—

1. That there was substantially no self-raising flour in the batch from which the biscuit were made.

2. That poison was introduced into the biscuit, through the sour milk employed with salæratum, in ordinary flour, to make the biscuit light.

3. That the poison was introduced by design.

4. That the poison was arsenic.—*Medical and Surgical Reporter.*

A Remarkable Solvent.—It is now discovered, it appears, that if a piece of copper be dissolved in ammonia, a solvent will be obtained, not only for lignine, the most important principle of all woody fibre—such as cotton flax, paper, &c.—but also for substances derived from the animal kingdom, such as wool and silk. By the solution of any of these an excellent cement and water-proofer is said to be formed; and, what is equally important, if cotton fabrics be saturated with the solution of wool, they will be enabled to take the dyes—such as the lac dye and cochineal hitherto suited to woollen goods only.—*Exchange.*

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, JANUARY 26th, 1867.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	49	46	95
Ave. mortality of corresponding weeks for ten years, 1856—1866	40.2	38.7	78.9
Average corrected to increased population	00	00	86.92
Death of persons above 90	0	0	0

COMMUNICATIONS RECEIVED.—Amputation of the Cervix Uteri.—Impotency from Deviation of the Seminal Ducts.—On some of the Means used in the Treatment of Pulmonary Consumption.—Extracts from the Records of the Middlesex (Mass.) East District Medical Society.—Extracts from the Records of the Albany City Hospital.

PAMPHLETS RECEIVED.—Diphtheria: A Prize Essay. By E. S. Gaillard, M.D., Richmond, Va.—Twelfth Annual Report of the Board of Trustees and Officers of the Southern Ohio Lunatic Asylum, for the year 1866.—Relations which Electricity sustains to the Causes of Disease. By S. Littell.

DEATHS IN BOSTON for the week ending Saturday noon, Jan. 26th, 95. Males, 49—Females, 46. Accident, 1—anaemia, 1—apoplexy, 2—congestion of the brain, 1—disease of the brain, 2—bronchitis, 4—cancer, 4—cholera morbus, 1—consumption, 12—convulsions, 3—croup, 3—cyanosis, 1—debility, 1—dropsy, 3—dropsy of the brain, 4—dysentery, 1—empyema, 2—erysipelas, 1—scarlet fever, 6—typhoid fever, 4—haemorrhage, 1—disease of the heart, 6—hernia, 1—infantile disease, 4—intemperance, 1—lockjaw, 1—inflammation of the lungs, 6—marasmus, 1—old age, 2—paralysis, 1—puerperal disease, 1—scrofula, 1—smallpox, 2—congestion of the stomach, 1—syphilis, 1—teething, 1—tumor, 1—unknown, 4—whooping cough, 2.

Under 5 years of age, 33—between 5 and 20 years, 8—between 20 and 40 years, 25—between 40 and 60 years, 13—above 60 years, 16. Born in the United States, 66—Ireland, 24—other places, 5.

